

Product Specification: Refined Soybean Oil

Product Overview

A premium, refined, bleached, and deodorized (RBD) soybean oil derived from the seeds of Glycine max (L.) Merr. This versatile liquid oil is ideal for cooking, frying, baking, salad dressings, mayonnaise, and margarine production. It emphasizes a balanced fatty acid profile with high polyunsaturated content, suitable for food manufacturing and consumer use.

Sensory Profile

- **Appearance:** Clear and brilliant at room temperature
- **Consistency:** Liquid at 20°C
- **Flavor and Aroma:** Neutral and bland (sensory panel verified)
- **Color:** Pale yellow (Max. 1.5 red, 15 yellow; Lovibond 5¼" cell)
- **Impurities:** Absent
- **Cold Test:** Stable for at least 5 hours at 23°F (-5°C)
- **Shelf Life:** 24 months from manufacturing date

Analytical and Physical Properties

| Parameter | Specification | Test Method |
|---------------------------------------|----------------------------|---------------------------|
| Specific Gravity at 20°C (g/mL) | 0.915 – 0.924 | ISO 6883 or AOCS Bg 1-05 |
| Refractive Index (nD at 40°C) | 1.466 – 1.470 (indicative) | ISO 6320 or AOCS Cc 7-25 |
| Saponification Value (mg KOH/g) | 186 – 194 | AOCS Cd 3-25 or ISO 3657 |
| Iodine Value (calculated) | 104 – 139 | AOCS Cd 1-25 or ISO 3961 |
| Moisture Content (%) | ≤ 0.05 | AOCS Ca 2d-25 or ISO 662 |
| Free Fatty Acids (% as oleic acid) | ≤ 0.05 | AOCS Ca 5a-40 or ISO 660 |
| Peroxide Value (meq/kg) – At Dispatch | ≤ 1 | AOCS Cd 8-53 or ISO 3960 |
| Phosphorus Content (ppm) | ≤ 5 | AOCS Ca 18-91 or ICP-OES |
| Unsaponifiable Matter (g/kg) | ≤ 20 | AOCS Ca 6a-40 or ISO 3596 |

*Compliant with CODEX ALIMENTARIUS CXS 210-1999 (Amended 2015) for named vegetable oils.

Corporate Office

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Fatty Acid Composition*

| Fatty Acid | Carbon Chain | Specification (%) | Test Method |
|-------------|--------------|-------------------|--------------------------|
| Myristic | C14:0 | ND – 0.2 | - |
| Palmitic | C16:0 | 7.9 – 13.5 | - |
| Palmitoleic | C16:1 | ND – 0.2 | - |
| Stearic | C18:0 | 2.0 – 6.7 | - |
| Oleic | C18:1 | 17 – 45.5 | Gas Chromatography |
| Linoleic | C18:2 | 36.9 – 59 | ISO 5508 or AOCS Ce 2-66 |
| Linolenic | C18:3 | 0.2 – 11 | - |
| Arachidic | C20:0 | 0.1 – 0.7 | - |
| Gadoleic | C20:1 | ND – 0.5 | - |
| Behenic | C22:0 | ND – 1.1 | - |
| Erucic | C22:1 | ND – 0.3 | - |
| Lignoceric | C24:0 | ND – 0.5 | - |

*Aligned with CODEX ALIMENTARIUS CXS 210-1999 (Amended 2015). Total Trans Fatty Acids: ≤ 1%. ND = Non-detectable (≤ 0.05%).

Nutritional Information (Average per 100g)

| Nutrient | Value |
|----------------------|--------------------|
| Energy | 3700 kJ / 900 kcal |
| Protein | ≤ 0.1 g |
| Carbohydrates | ND |
| Total Fat | 100 g |
| Saturated Fats | 10 – 21 g |
| Monounsaturated Fats | 17 – 45 g |
| Polyunsaturated Fats | 52 – 70 g |
| Cholesterol | ND |
| Additives | None |

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Heavy Metals Analysis*

| Metal | Unit | Limit | Test Method |
|--------------|------|-------|--------------------|
| Iron (Fe) | ppm | ≤ 1.5 | NF EN ISO 8294 |
| Copper (Cu) | ppm | ≤ 0.1 | NF EN ISO 8294 |
| Lead (Pb) | ppm | ≤ 0.1 | NF EN ISO 12193 |
| Arsenic (As) | ppm | ≤ 0.1 | ICP-MS (ISO 11885) |

*Conforms to EU Regulation 1881/2006 (and amendments) and CODEX STAN 210-1999.

Pesticide Residues

| Category | Unit | Limit | Test Method |
|------------------|------|-------|---|
| Organophosphorus | ppm | ** | Gas Chromatography + specific detection |
| Organochlorine | ppm | ** | ECD-NDP |

**Compliant with EU Regulation 396/2005 (and amendments) – Survey-based analysis.

Polycyclic Aromatic Hydrocarbons (PAHs)

| Compound | Unit | Limit | Test Method |
|----------------------|------|-------|----------------|
| Benzo(a)pyrene (BaP) | ppb | ≤ 2 | ISO 15302:1998 |

Dioxins and Dioxin-Like PCBs***

| Parameter | Unit | Limit |
|--------------------|------|-------|
| WHO-PCDD/F-TEQ | pg/g | 0.75 |
| WHO-PCDD/F-PCB-TEQ | pg/g | 1.5 |

***In accordance with EU Regulation 1881/2006 (and amendments).

General Notes

This food-grade refined soybean oil is GMO-derived where applicable and requires labeling per EU Regulation 1829/2003. It poses no health or safety hazards for edible uses and does not require a Material Safety Data Sheet. Specifications are for informational purposes only and align with international standards. Laboratory evaluation is recommended prior to commercial use. No express or implied warranties for merchantability or fitness for specific purposes. These guidelines do not infringe on patent rights.

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